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SEPTEMBER 30, 2010

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CHRISTOPHER P. HARRIS TAROLLI, SUNDHEIM, COVELL & TUMMINO LLP 1300 EAST NINTH STREET, SUITE 1700 CLEVELAND, OHIO 44114



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RECORDATION DATE: 09/07/2010

REEL/FRAME: 025051/0504 NUMBER OF PAGES: 11

BRIEF: MERGER (SEE DOCUMENT FOR DETAILS).
DOCKET NUMBER: ESSEX TO NGSMSC

ASSIGNOR:

ESSEX CORPORATION

DOC DATE: 12/18/2008

ASSIGNEE:

NORTHROP GRUMMAN SPACE & MISSIONS SYSTEMS CORP.

1840 CENTURY PARK EAST

LOS ANGELES, CALIFORNIA 90067-2199

SERIAL NUMBER: 10100203

FILING DATE: 03/19/2002

PATENT NUMBER: ISSUE DATE:

TITLE: METHOD AND APPARATUS FOR PRECISION WAVELENGTH STABILIZATION IN

FIBER OPTIC COMMUNICATION SYSTEMS USING AN OPTICAL TAPPED DELAY LINE

SERIAL NUMBER: 07604255 FILING DATE: 10/29/1990
PATENT NUMBER: 5079555 ISSUE DATE: 01/07/1992

TITLE: SEQUENTIAL IMAGE SYNTHESIZER

025051/0504 PAGE 2

SERIAL NUMBER: 07806697 FILING DATE: 12/12/1991
PATENT NUMBER: 5202776 ISSUE DATE: 04/13/1993
TITLE: TITLE DELAY BEAM FORMATION

SERIAL NUMBER: 08032696 FILING DATE: 03/17/1993
PATENT NUMBER: 5384573 ISSUE DATE: 01/24/1995

TITLE: IMAGE SYNTHESIS USING TIME SEQUENTIAL HOLOGRAPHY

SERIAL NUMBER: 08387414 FILING DATE: 02/13/1995
PATENT NUMBER: 5623360 ISSUE DATE: 04/22/1997
TITLE: TIME DELAY BEAM FORMATION

SERIAL NUMBER: 09687029 FILING DATE: 10/13/2000 PATENT NUMBER: 6608721 ISSUE DATE: 08/19/2003 TITLE: 0PTICAL TRAPED DELAY LINE

SERIAL NUMBER: 10012049 FILING DATE: 12/11/2001 PATENT NUMBER: 6735346 FILING DATE: 05/11/2004

TITLE: HD FOURIER TRANSFORMS FOR IRREGULARLY SAMPLED DATA

SERIAL NUMBER: 10833342 FILING DATE: 04/28/2004
PATENT NUMBER: 7042386 ISSUE DATE: 05/09/2006 FILING DATE: 04/28/2004 TITLE: SUB-APERTURE SIDELOBE AND ALIAS MITIGATION TECHNIQUES

SERIAL NUMBER: 10051334 FILING DATE: 01/22/2002
PATENT NUMBER: 7062174 ISSUE DATE: 06/13/2006

TITLE: WAVELENGTH DIVISION MULTIPLEXING ADD-DROP MULTIPLEXER USING AN

OPTICAL TAPPED DELAY LINE

SERIAL NUMBER: 09766151 FILING DATE: 01/19/2001 PATENT NUMBER: 7130292 ISSUE DATE: 10/31/2006 TITLE: OPTICAL PROCESSOR ENHANCED RECEIVER ARCHITECTURE (OPERA)

SERIAL NUMBER: 10199495 FILING DATE: 07/22/2002
PATENT NUMBER: 7509048 ISSUE DATE: 03/24/2009

TITLE: METHOD AND APPARATUS FOR OPTICAL SIGNAL PROCESSING USING AN OPTICAL

TAPPED DELAY LINE

SERIAL NUMBER: 10715824 FILING DATE: 11/19/2003
PATENT NUMBER: 7720226 ISSUE DATE: 05/18/2010

TITLE: PRIVATE AND SECURE OPTICAL COMMUNICATION SYSTEM USING AN OPTICAL

TAPPED DELAY LINE

SERIAL NUMBER: 10051229 FILING DATE: 01/22/2002
PATENT NUMBER: 7756424 ISSUE DATE: 07/13/2010 TITLE: OPTICAL CDMA COMMUNICATIONS SYSTEM USING OTDC DRVICE

SERIAL NUMBER: 11346566 FILING DATE: 02/03/2006 PATENT NUMBER: 7768709 ISSUE DATE: 08/03/2010

TITLE: LONG TIME APERTURE OPTICAL TAPPED DELAY LINE

SHARON LATIMER, EXAMINER ASSIGNMENT SERVICES BRANCH PUBLIC RECORDS DIVISION EFFECTIVE DATE:

Electronic Version v1.1

12/18/2008

CONVEYING PARTY DATA

I		
ı	Name	Execution Date
ı	Essex Corporation	12/18/2008

RECEIVING PARTY DATA

7	
Name:	Northrop Grumman Space & Missions Systems Corp.
Street Address:	1840 Century Park East
City:	Los Angeles
State/Country:	CALIFORNIA
Postal Code:	90067-2199

PROPERTY NUMBERS Total: 14

Property Type	Number
Patent Number:	5079555
Patent Number:	5202776
Patent Number:	5384573
Patent Number:	5623360
Patent Number:	6608721
Patent Number:	6735346
Patent Number:	7042396
Patent Number:	7062174
Patent Number:	7130292
Patent Number:	7509048
Patent Number:	7720226
Patent Number:	7756424
Patent Number:	7768709
Application Number:	10100203

CORRESPONDENCE DATA

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Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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2166212234

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Cleveland, OHIO 44114

ATTORNEY DOCKET NUMBER:

ESSEX TO NGSMSC

NAME OF SUBMITTER:

Christopher P. Harris

Total Attachments: 2

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Assignment Page 1 of 2

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	MERGER
EFFECTIVE DATE:	12/18/2008

CONVEYING PARTY DATA

Name	Execution Date	
Essex Corporation	12/18/2008	

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Assignment Page 2 of 2

Patent Number:	7720226
Patent Number:	7756424
Patent Number:	7768709
Application Number:	10100203

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(216)621-4072 Fax Number:

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 2166212234 Email: lpringle@tarolli.com

Correspondent Name: Christopher P. Harris

Address Line 1: Tarolli, Sundheim, Covell & Tummino LLP 1300 East Ninth Street, Suite 1700 Address Line 2: Address Line 4: Cleveland, OHIO 44114

ATTORNEY DOCKET NUMBER:	ESSEX TO NGSMSC
NAME OF SUBMITTER:	Christopher P. Harris
Signature:	/Christopher P Harris/
Date:	09/07/2010

Total Attachments: 2

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RECEIPT INFORMATION

EPAS ID: PAT1307747 Receipt Date: 09/07/2010 Fee Amount: \$560

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. 10	PATENT	S ONLY	
To the Director of the U.S. Patent and Tra	ademark Office: Pleas	se record the attached documents or the new address(es) be	elow.
1. Name of conveying party(ies)		2. Name and address of receiving party(ies)	
		Name:Northrop Grumman Space & Missions Systems Corp.	
Essex Corporation		Internal Address:	
Additional name(s) of conveying party(ies) attact 3. Nature of conveyance/Execution Execution Date(s)12/18/2008	Date(s):	Street Address: 1840 Century Park East	
Assignment M Security Agreement CI	erger hange of Name	City: Los Angeles	
Joint Research Agreement		State:California	
Government Interest Assignment Executive Order 9424, Confirmato	ory License	Country: USA Zip 90067-2199	
Other		Additional name(s) & address(es) attached? Yes	X No
Application or patent number(s): A. Patent Application No.(s)	This	document is being filed together with a new app B. Patent No.(s)	ication.
SEE ATTACHED			
,	Additional numbers att	I ached? ⊠Yes No	
5. Name and address to whom corrections of the corrections of the corrections of the correction of the corrections of the corrections of the correction of t		6. Total number of applications and patents involved: 14	
Name: Christopher P. Harris		7. Total fee (37 CFR 1.21(h) & 3.41) \$560.00	
Internal Address: Tarolli, Sundheim, Covell &	Tummino LLP	Authorized to be charged to deposit accou	nt
Street Address: 1300 East Ninth Street, Suite	1700	Enclosed None required (government interest not affect	iing title)
City: Cleveland		8. Payment Information	
State: OH Zip: 44	1114		
Phone Number: 216.621.2234 Ext. 104			
Fax Number: 216.621.4072		Deposit Account Number 20-0090	
Email Address: charris@tarolli.com		Authorized User Name Christopher P. Harris	
9. Signature:	/Christopher P Harris/ Signature	7 September 2010 Date	
Christopher P. Name of Perso	. Harris	Total number of pages including cover sheet, attachments, and documents:	10

Applications: 10100203

Patents:

DATE: DOCUMENT ID DESCRIPTION 12/23/2008 200835800484 MERGER/DOMESTIC (MER) FILING EXPED 125.00 300.00

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ATTN: TIMOTHY ROBERSON
COLUMBUS, OH 43219

STATE OF OHIO CERTIFICATE

Ohio Secretary of State, Jennifer Brunner

40406

It is hereby certified that the Secretary of State of Ohio has custody of the business records for NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CORP.

and, that said business records show the fitting and recording of:

Document(s)

MERGER/DOMESTIC

Document No(s): 200835800484



United States of America State of Obio Office of the Socretary of State Witness my hand and the seal of the Secretary of State at Columbus, Ohio this 1st day of January, A.D. 2009.

Ohio Secretary of State



Prescribed b

The Oteo Secretary of Scare Central Ohior (614) 465-3910 Toll Free: 1-477-503-FELE (1-477-767-3453) Expedite this Form: Invasional
Septiment of the PLO Septiment OH 43216
There are efficient of 1387
Oten Septime
PO, Box 1329
Coumbus CH 43216

www.sos.siste.oh.us e-mail: bussan@eos.state.ch.us

CERTIFICATE OF MERGER

	CERTIFICATE OF MERGER		
	Filing Fee \$125.00	(2	200
	(154-44(2)	11	
xdani	ce with the requirements of Ohio law, the undersigned corporations, banks, savings banks, savinge as a	oan.	
Sabis	ly companies, irreled partnerships and/or parinerships with broken failure, desirtor to effect a marrier		
h The	following facts:		2
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, The	hame of the entity surviving the merger is: NORTHROP GRUMMAN SPACE & MISSION SYS	STEM	IS CÓR
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, Na	me Change: As a result of this reerger, the narro of the surviving entity has been changed to the following	g.	8
Cor	rquire and if name of establing scrity is charging skrough, the averages)		
. The	surviving entity is a: (Please check the appropriate box and fit in the eppropriate blanks)		
X	Domestic (Chio) For Profit Corporation, charter member 49406		
	Domestic (Ohio) Nonprofit Corporation, charter number		
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	Foreign (Non-Chio) For-Profit Corporation lecorporated under the tawe of the state/country of and NOT licensed to transact business in the siste of Ohio		
	Foreign (Non-Ohio) Norprofit Corporation under the texes of the state/country of and Kornaed to transact bulness in the state of Ohio under Scense number		
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Page 1 of 10

Las: Revised: 6/19/2008

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Each consistent entity has complied with all of the laws under which it exists and the laws pertrit the marger. The Romement of merger is euthorized on behalf of each consistent entity and that each person who eignes the certificate	un communitativa de proposatio de propio.		Of a date is specif	led. the date must b	
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TATEMENT OF MERGER xon Sting, or upon auch later cate as executed ted surviving entity.	d herois, the menging enthylentifies Saind benefit that mange into the
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QUIREMENTS OF CORPORATIONS MERC	GING OUT OF EXISTENCE
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Similard partnership, or partnership having its statutory agent listed above as long as the ar secontary of State of Ohio if the agent conno- limited tability company, Amitted partnership, agent when required to do so, or if the foreign	rikk, storings benk, anvings mid isan, fimiliad isability company, incl disklib) invocably consumits to an ofce of process on the third principal confirmence, and is service of process account or continuous principal confirmence and the service of process according or promoved principal confirmed isolatily table to destgrate accident, or promoved principal confirmed isolatily table to destgrate accident, inclinad according to the confirmence of the confirmenc
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	he qualifying emity is a foreign bank, savings bank, or ear- at be completed 3		
(e)	The name of the Foreign Nahonarky/Federarky chartered association is:	bank, savings bunk, or sa	wings and loses
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(c)	The location of the main office (non-Chio) shall be:	***************************************	
	Street Address / P.O. Box Address		
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(0)	(If there will not be an office in the state of Ohio, pleas the corporation will exercise the following purpose(s) in the	he state of Ohio	
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The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CORP.", AN OHIO CORPORATION.

WITH AND INTO "NORTHROP GRUMMAN SYSTEMS CORPORATION" UNDER THE NAME OF "NORTHROP GRUMMAN SYSTEMS CORPORATION", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE FOURTEENTH DAY OF DECEMBER, A.D. 2009, AT 7:44 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 2009, AT 11:59 O'CLOCK P.M.

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u may verify this certificate onli

Jeffrey W. Bullock, Secretary of State
AUTHENITY CATION: 8110637

DATE: 07-13-10